

# Orbital Imaging Enhancement via Helical EM-Induced Autoluminescence

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## Introduction

Sometimes, when the quality of a photograph is insufficient, the properties of the lens are to blame. In other cases, a sensor may be inadequate. In other cases, brightness may be insufficient. This is particularly true for nighttime orbital photography, however enhancing the amount of light coming from an object during daylight hours may also have some marginal benefit.

With helical light, it is possible for a LASER to travel through one hundred miles of atmosphere without scattering. However, this light has a tendency to dehelicize upon reflection from solid objects and therefore would generate a comparatively weak return. Light in the visible spectrum or even in the infrared spectrum, in order to be used as a sort of "flash bulb" for a reconnaissance satellite would necessarily be so bright that it would likely damage the eyesight of bystanders on the ground, provided that such a bright light source could be efficiently delivered (the primary limitation being the need to provide adequate power to such a LASER.)

Importantly, one must capture crisp images even in the darkness and one wishes to additionally ensure the capture of the true color of an object. Artificial illumination would work against this goal. While great strides have been made toward creating, for example, revolutionary *sensordenses* (ibid.) capable of achieving both ultrahigh resolution and perfect focus at all ranges through their intrinsic capacity to take repeated measurements of the same waveforms, bypassing the need to destroy waveforms upon measurement during conversion into an electrical impulse via absorption by a semiconductor, there remains, even with this revolutionary technology taken into account, room for improvement in the area of low-light photography. Attempting to duplicate photons within sensors is largely counterproductive as doing so does not confer additional information about light emanating from an object. Attempting to guess at the contents of a true image using Artificial Intelligence (when reconnaissance is the purpose rather than moviemaking) similarly defeats the purpose of reconnaissance as one needs to know the actual information and not what sort of colors would be aesthetically pleasing to the viewer.

## Abstract

At nighttime, reconnaissance satellites rely on the passive emission of infrared light from objects on the ground in order to create images. These images tend not to convey true color information and tend to be of lower resolution given the comparative dimness of the light being emitted. If, however, there were a way to synchronize and amplify natural passive infrared emission through external

stimulation (perhaps by microwave-frequency energy not damaging to the human eye) then it may be possible to ultimately improve the resolution of nighttime IR photograph of objects seen from orbit by the utilizing of bombardment of objects to be imaged with high-intensity, pulsed helical microwave energy in order to generate unnaturally intense IR emission events.

As these emission events are driven by collisions of electrons within the electron clouds of atoms and these collisions are driven by the tendency of electrons to flow toward common points in orbitals as a result of Coulomb Attraction which, in turn, are caused by the near approach of positively charged nuclei to electron clouds resulting from increased temperature, it stands to reason that these collisions could be generated by external influence from helical EM in addition to factors such as temperature. In fact, given the right type of stimulation, an object might be made to luminesce in the visible light spectrum in much the same way that it does in the infrared spectrum (red hot iron stovetops do this routinely.) If this could be achieved, not only could the brightness of nighttime reconnaissance imaging be improved, but true color imaging under conditions of near-darkness could be achieved, even at ranges associated with Low Earth Orbit.

Helical electromagnetism in the visible spectrum is, of course, able to resist scattering as these photons do not feature pauses in spin at peaks of phase. It is during these pauses that a photon may come more heavily under the influence of the discrete magnetism of electrons orbiting physical matter such as atmospheric molecules (ibid.) As helical light has no such pauses, they do not have this same tendency of scattering both due to the properties of continual spin and magnetic force amplification through alignment of moments of photons associated with the helical structure of this form of EM (ibid.)

When helical EM (even at lower frequencies such as that of microwaves) given its strongly reinforced magnetic structure, strikes an object, the symmetry of electron clouds may be affected from without in much the same way that they are affected by thermal energy coming from within. A powerful spiral of photons interacting with the electron cloud of a solid object to be photographed, for instance, could be predicted to create locally positive zones in the cloud, leading to increased chance of electron-electron collisions in individual clouds. This would result in stimulated emission in the IR spectrum and perhaps in the visible spectrum as well.

By pulsing this high-intensity energy from orbit toward objects on the ground over periods of no more than 1/100th of one second, these periods of synthetic luminescence of both organic and inorganic objects on the ground would likely go unnoticed by those affected.

As the timing of the pulses would be known only to the operator of the reconnaissance platform, the platform would be calibrated to work in synchronization with discrete emitter platforms to ensure that photographs are captured at the appropriate time.

This effect could be maximized by using synchronized helical microwave pulses from six different angular directions oriented toward the same target. Emissions from six helical EM emitter satellites positioned so as to emit helical EM from just above the horizon (from the perspective of the object to be stimulated into enhanced emission) at the same instant that a photographic reconnaissance satellite is at zenith over the target would maximize the intensity of helical EM-induced autoluminescence.

## **Conclusion**

When coupled with other revolutionary reconnaissance technologies, helical EM-induced autoluminescence for enhanced nighttime photography will fill a capability gap previously thought to have no remedy and provide a valuable advantage over those lacking such a capacity.